

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/20/2009 has been entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Usha Parker on 05/12/2009.

Amendment to abstract

Replace the abstract with the following

In the pixel portions of the CMOS image sensor, a plurality of unit cells are arranged in the row and column directions at a predetermined pitch respectively in a two-dimensional plain forming a matrix. Each unit cell includes the first and second photodiodes PDa and PDb, the first and second transfer transistors Ta and Tb for transferring the stored charges of the photodiodes to their common floating junctions FJ,

the reset transistors R for resetting the potential of the floating junctions FJ, the driver transistors D whose output potential is controlled by the potential of the floating junctions FJ, and the address transistors A for selectively driving the driver transistors D. With the arrangement of the elements and wires in the pixel portions, the integration can be increased and the resolution in the horizontal and vertical directions can be improved.

Allowance

3. Claims 1 – 5, 7 – 14, 16 – 21, 23 are allowed.
4. The following is an examiner's statement of reasons for allowance: Regarding claim 1 and 8, the prior art of record does not disclose: A CMOS image sensor comprising:

First photoelectric conversion elements constituting the receptive unit cells and arranged in a horizontal row form a first pixel line,

Second photoelectric conversion elements constituting the respective unit cells and arranged in a horizontal row form a second pixel line adjacent to the first pixel line, and the first photoelectric conversion elements arranged in the first pixel lines are dislocated from the respective closest ones of the second photoelectric conversion elements arranged in the second pixel lines by $\text{PhO}/2$ and $\text{PvO}/2$ in the horizontal and vertical directions, respectively, to form a checker wise arrangement as a whole and in combination with other elements.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SELAM T. GEBRIEL whose telephone number is (571)270-1652. The examiner can normally be reached on Monday-Friday 7:30 am - 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Sinh can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tuan V Ho/
Primary Examiner, Art Unit 2622
/Selam T Gebriel/
Examiner, Art Unit 2622
Monday, May 04, 2009